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This is the most recent of the series of monographs of small groups of vertebrate animals issued by the Boston Society of Natural History from time to time. The seventeen species of turtles recorded as native to New England are taken up in order and described, size, color, form, distribution, numbers, breeding, food, enemies, economic importance. The plates comprise careful color drawings by R. Decker and J. Henry Blake, of all but the marine leather-back, loggerhead and green turtles, and photographs of these three. The illustrations facilitate the identification of the different turtles, supply the best existing figures of certain comparatively little-known species and, as representative of New England material, will be valuable for reference to faunal herpetologists. There are several pages of bibliography of references cited. Of the seventeen species of turtles treated, four are marine, one littoral, one almost strictly terrestrial, one strictly aquatic, and ten more or less amphibious. Exclusive of the marine species, six are rare or local in New England, the remaining seven being the snapping turtle, musk turtle, painted turtle, diamond-backed terrapin, spotted turtle, wood tortoise and box tortoise.

This publication will be welcomed by the students of the fauna of New England and herpetologists in general, but it should have a much wider circulation. Ability to refer to it will add to the pleasure which every New England child may be expected to find in turtles. The turtle is one of the most striking of nature's phenomena and the correlation of its remarkable structure with its habits has much popular interest. A careful consideration of the life-histories of the different species is a feature of Dr. Babcock's work. From the quotations it is noticeable how many interesting things about turtles have only recently come to light and we are impressed with the probability that others as interesting remain to be found out.

In conclusion, a word should be said of the thorough investigation of the New England fauna by the Boston Society of Natural History of which this paper is a detail. Larger institutions are often absorbed by distant problems and work of this nature is much needed to keep the study of natural history well balanced.

J. T. Nichols
American Museum of Natural History

SPECIAL ARTICLES

THE FUNGUS PARASITE OF THE PERIODICAL CICADA

The fungus *Massospora cicadina,* Peck has been extremely prevalent about Washington, D. C., during the recent reappearance of Brood X of *Cicada septendecim.* It was first collected in the conidial stage of development on May 31, or about ten days after the first emergence of the insect in this locality. Until June 7, however, it was not abundant, it being possible to collect only a dozen or so infected cicadas in an afternoon, and during this period only the conidial stage of the fungus was found. On June 10, however, following a wet period of a few days, the organism appeared in the resting spore condition and since this date has become increasingly prevalent until, at the present time, from five to nine out of every ten live adult males collected will show the resting spores of the fungus in some stage of development. On the other hand, infected insects showing conidia are rarely found now.

It appears from the observations made thus far that conidia and resting spores of *Massospora cicadina* are not formed simultaneously in the same insect, and infected individuals bearing only conidia of the fungus present a somewhat different gross appearance from those insects in which resting spores exclusively are produced.

In the conidial stage of development the fungus is usually exposed to view, due to the sloughing off of several of the posterior abdominal segments of the host's body, as a white or pale cream colored more or less coherent mass which is found to arise in the male hosts at least from a cushion-like substratum, the latter forming a more or less complete septum extending across the entire

body cavity. Anterior to this septum the abdominal cavity is entirely empty.

In the resting spore condition the fungus mass, in the males, in the early stages at least, likewise confined to the posterior portion of the abdomen, is at first white, then sulphur yellow and finally greenish brown or brown in color, and only slightly coherent. While the fungus in this stage of development seems likewise to be confined to the genitalia of the host, there is apparently no septum formed, and at maturity the resting spores, scatter about the entire body cavity. The resting spores, which are extremely uniform in size, are remarkably ornamented and at maturity form a dustlike mass which is freed from the insect by the disintegration of the intersegmental membranes of the abdomen.

In the few infected females that the writer has examined the fungus mass fills nearly the entire body cavity.

As noted by previous writers, many infected cicadas were found still alive and actively flying about with but a portion of the abdomen remaining, the entire posterior portion having sloughed off leaving the conidia or resting spores of the fungus exposed in such a way that every movement of the host served to scatter them.

It is hoped that a full account of the life history of this fungus will be published soon.

A. T. SPEARE

BUREAU OF ENTOMOLOGY,
WASHINGTON, D. C.

THE OHIO ACADEMY OF SCIENCE

THE twenty-ninth annual meeting of the Ohio Academy of Science was held at Ohio State University, Columbus, May 29 to 31, 1919, under the presidency of Professor Maynard M. Metcalf. Seventy-nine members were registered as present; forty new members were elected.

The academy formally recognized the establishment of a new section for Psychology, with an initial membership of about twenty.

It was reported by the trustees of the Research Fund that Mr. Emerson McMillin, of New York City, had made a further contribution of two hundred and fifty dollars in support of research work by the academy.

At the close of the formal session, the geologists, under the leadership of Professors J. E. Hyde and T. M. Hills, made an excursion to Newark for the study of glacial physiography and the Upper Waverly formation, while Professor W. M. Barrows conducted a zoological and botanical excursion to Sugar Grove.

Officers were elected as follows: *President,* F. C. Blake, Ohio State University; *Vice-presidents: Zoology,* F. H. Herrick, Western Reserve University; *Botany,* A. B. Plowman, Municipal University of Akron; *Geology,* J. E. Hyde, Western Reserve University; *Physics,* M. E. Graber, Heidelberg University; *Medical Sciences,* R. J. Seymour, Ohio State University; *Psychology,* G. R. Wells, Ohio Wesleyan University; *Secretary,* E. L. Rice, Ohio Wesleyan University; *Treasurer,* W. J. Kostir, Ohio State University.

The scientific program was as follows:

PRESIDENTIAL ADDRESS

The scientific spirit: PROFESSOR MAYNARD M. METCALF, printed in SCIENCE for June 13, 1919.

PUBLIC LECTURE

Airplanes, present and future: MR. DAVID CARROLL CHURCHILL, Oberlin.

PAPERS

The theory of chance applied to the Bacon-Shakespeare controversy: T. C. MENDENHALL.

Teleology in the teaching of zoology: W. M. BARROWS.

Dynamics and evolution as illustrated in the euglenoids: L. B. WALTON.

Notes on a technique for the study of Euglenidæ: W. J. KOSTIR.

The comparative resistance of different species of Euglenidæ to acids: W. J. KOSTIR.

Notes on a tingid destructive to beans: HERBERT OSBORN.

The European corn borer (Pyrausta nubilalis Hubn) a menace to American agriculture: E. C. COTTON.

The stratification of spiders in meadows: W. M. BARROWS.

Concerning the attachment of larval colonies of Pectinatella and Plumatella: STEPHEN R. WILLIAMS.

Remarks on the phylum Prosopygia: RAYMOND C. OSBURN.

The bryozoan fauna of Greenland: RAYMOND C. OSBURN.

Classification of the Salpidæ: MAYNARD M. METCALF.

The remarkable fauna of a drop of pond water: W. J. KOSTIR.

Polymorphism and allelomorphism in Bruchus quadrimaculatus: J. K. BREITENBECHER.

Circulation of cœlomic fluid in a nematode: F. H. KRECKER.

Egg laying of a leech, Piscicola: F. H. KRECKER.

The columella auris of the reptiles: EDWARD L. RICE.